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PHYSIOLOGICAL MONITORING AT THE MONROE INSTITUTE

by F. Holmes (Skip) Atwater

The J&J Enterprises 330-1 Psychophysiological Monitoring computer system obtained to support the Brain-mapping project also allows us to do computerized physiological monitoring of subjects.

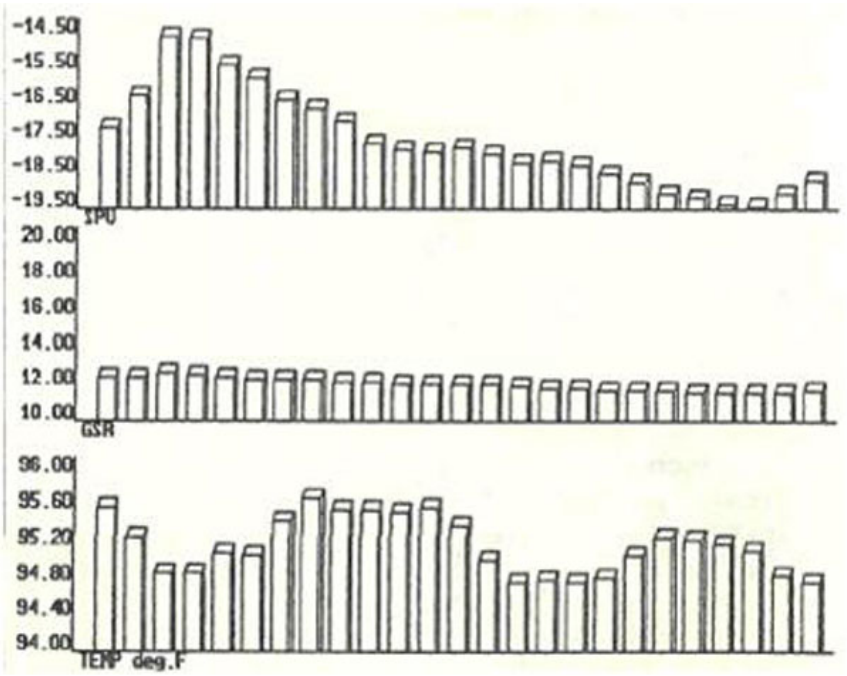

ILLUSTRATION 1: This particular 25 minute graph relates to an individual's construction and use of the Energy Bar Tool. Notice the subjective episodes depicted by SPV animation in the absence of GSR disturbances. Notice too, the fluctuations in the individual's temperature as the on-tape EBT exercises change.

Electrodermal activity has two mechanisms of generation: that due to sweat gland activity (sudorific) and that due to other causes (nonsudorific). It is important to discriminate between the two mechanisms. Sudorific skin potentials have long been associated with levels of anxiety. There is reason to expect non-sudorific skin potential levels to be an important factor in embryogenesis, tissue regeneration and atypical growth. Early work which associated nonsudorific potentials with changes in consciousness (e.g., sleep and hypnosis) has been inconclusive because sudorific skin potentials were not taken in to account (see note, below).

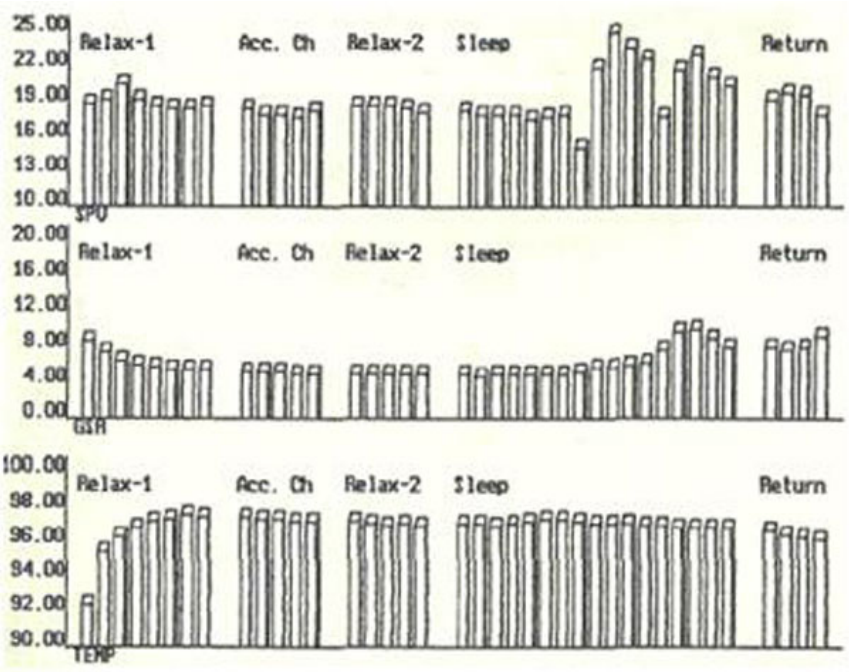

ILLUSTRATION 2: Notice the lack of SPV animation during the first segments of this H Plus *Brain Repair and Maintenance* exercise. This is a characteristic acquiescent pattern for on-tape activities not requiring active participation. After the H Plus tape ended, the individual reported experiencing what felt like electrical sparks charging across her corpus callosum during the sleep phase of the H Plus tape.

In the case of sudorific activity, skin resistance or its inverse, skin conductance, is measured by applying a constant current through two electrodes placed on the skin. Changes in resistance of short duration typically reach a peak in about one or two seconds and are referred to as skin resistance responses; these are also called galvanic skin responses (GSR). The general amount of resistance that changes slowly is called skin resistance level.

In the case of nonsudorific activity, the potential difference (voltage) between two electrodes on the skin when no current is applied is measured. Potential differences of short duration are called skin potential responses. Potential differences of long duration are referred to as skin potential levels. Records of these nonsudorific variables are referred to as skin potential voltage (SPV) measurements.

Here at TMI, subjective episodes in consciousness seem to be indicated by SPV animation in the absence of GSR disturbances. Additionally, discrete changes in perspective are occasionally indicated by shifts in the polarity of the SPV.

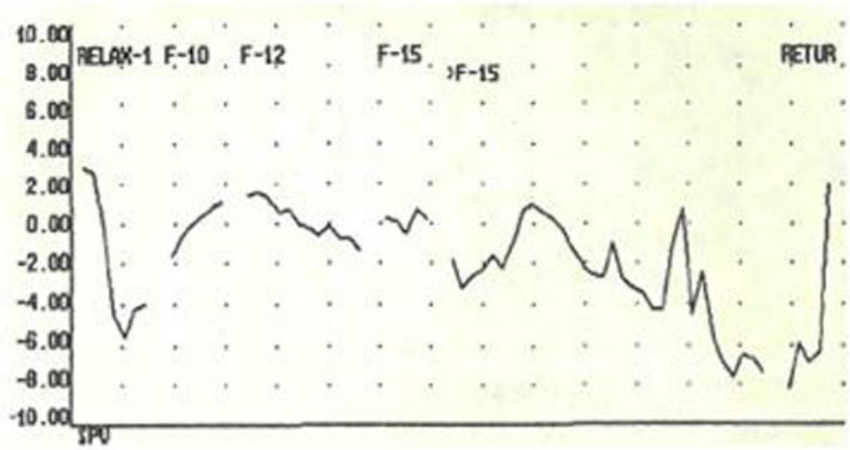

ILLUSTRATION 3: This SPV graph portrays an individual's Explorer Session (RPE-27). The active SPV changed polarity several times as she experienced a variety of perspectives.

Peripheral warming has proven to be a reliable biofeedback indication associated with theta brain wave states. On occasion individuals have been known to move into a theta brain wave rhythm as a result of warming of the hands (to above 95°F and maintaining that temperature for a few minutes). This same effect seems to hold true here at TMI. Peripheral (hand and finger) temperature generally rises above 95°F as states of consciousness favorable to perceptual experiences arise.

NOTE: If SPV is positive then any synchronous GSR-SPV movement in the opposite direction is representative of GSR activity and not an SPV response. Conversely, if SPV is negative then any synchronous GSR-SPV movement in the same direction is representative of GSR activity and not an SPV response.

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